sonnax®
PERFORMANCE

High Performance **TRANSMISSION** Parts

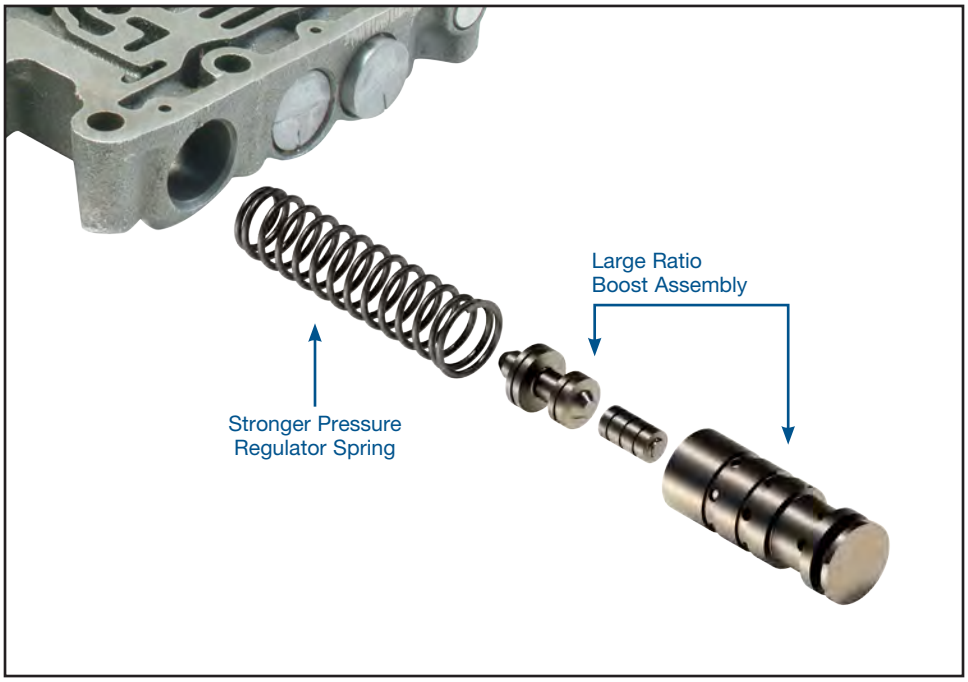
Instructions

350

Line Pressure Booster Kit

Part No. 350-LB1

- Large Ratio Boost Assembly
- Stronger Pressure Regulator Spring



1. Disassembly

Remove the retaining pin holding boost assembly (do not discard retaining pin). Discard the pressure regulator spring and boost valve assembly. Retain the OE pressure regulator valve.

2. Bore Preparation

Lubricate all pieces of the replacement kit.

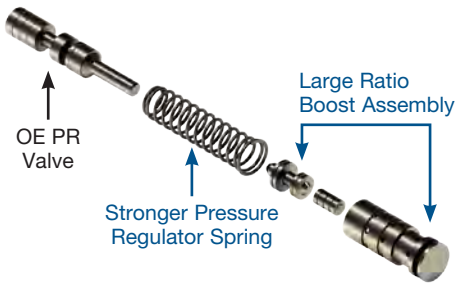
3. Installation

a. Install the new pressure regulator spring **(Figure 1)**.

b. Carefully push the sleeve assembly into the valve body, open end toward the spring.

c. Reinstall the retaining pin.

Figure 1



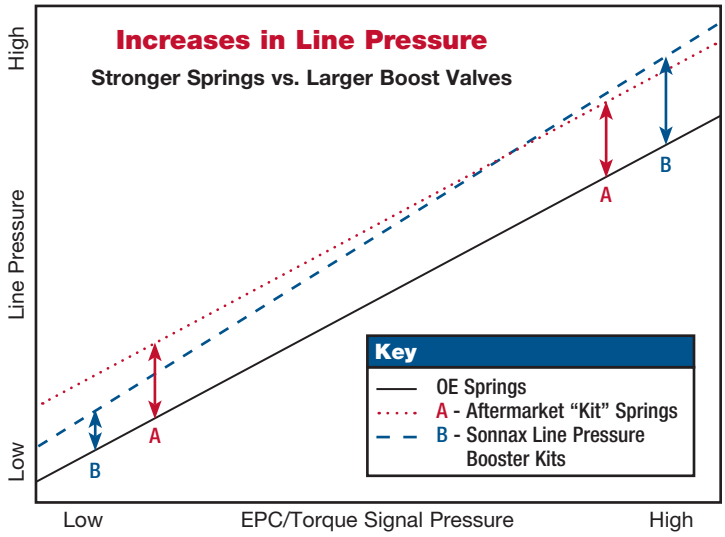
800-843-2600 • 802-463-9722 • F: 802-463-4059 • www.sonnax.com

The Prescription for Optimum Pressure

Stronger pressure regulator springs raise pressure equal amounts at idle and maximum pressure. Many aftermarket "kit" springs are a compromise, raising pressure too much at idle and not enough at maximum pressures (**A** in graph). Larger boost valves, on the other hand, have a progressive effect on pressure, changing the rate of pressure increase (**B** in graph).

The Sonnax large ratio boost valves and stronger pressure regulator springs are designed to work together. This is an ideal combination: smooth engagements and lower load on the pump at idle, but a greater increase in pressure as the transmission is worked harder.

For a more in-depth look at raising line pressure, read *The Prescription for Optimum Pressure* in the Sonnax online technical library at www.sonnax.com.



Pump Tech

Good Pressure Depends on a Good Pump

Verify Pump Specifications

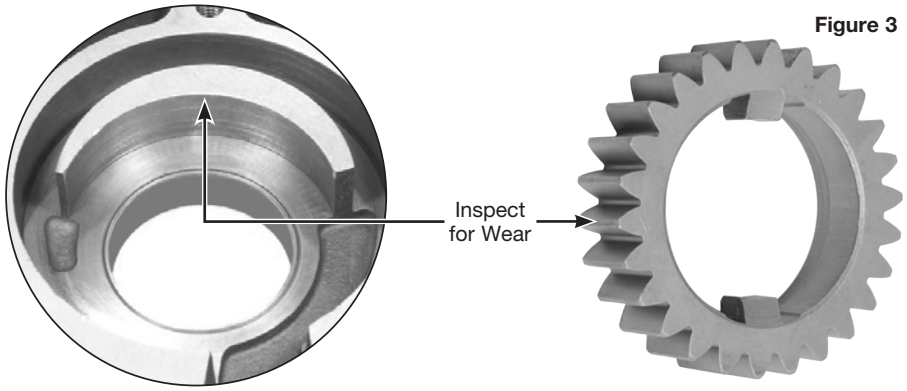
Excess clearance equals low pump volume and pressure.

Gear Pocket Clearance	.0007" to .0026" Check with feeler gauge and straight edge over pump face, or with Plastigauge and bolt complete pump together.
Outer Gear to Pump Body	.005" max.

Check for Wear

Wear on tips of inner gear teeth or on the crescent means low pressure. Inspect inside of crescent, area between suction and discharge ports and tips of gear teeth, for wear (**Figure 3**). Wear and excess clearance reduces pump efficiency.

Figure 3



Optional Shift Tech

Too Much of a Good Thing Causes Problems

Most times when a feed orifice is enlarged, the change in shift feel is far greater than intended and results in nuisance harsh shifts which many customers do not like. Sonnax kits raise line pressure in a progressive way so the biggest increase in pressure is at higher pressure ranges when it is needed most. This has an overall positive effect on shift feel without generating complaints.

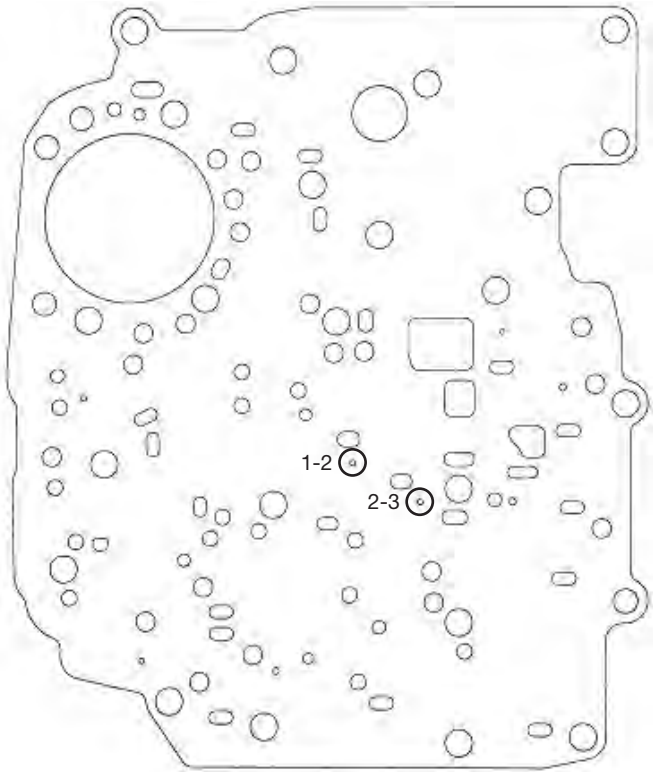
Sonnax does not recommend drilling feed holes in all transmissions or recommend specific drill sizes because there are so many different original calibrations and what works well in one may not work well in another. If you do wish to enlarge feed orifices, we have provided these guidelines to help you determine what drill size corresponds with a specific percentage increase in orifice area so you are less likely to cause problems.

Orifice Feed Hole Guidelines

Do not drill feed holes too large. A small change in diameter can make a big change in the area of the hole the oil flows through. Use this chart to determine drill diameter for any increase in orifice area that you think best suits the vehicle.

Original Orifice Diameter	Enlarged Diameter ← Conservative — Aggressive →				
	+10% area	+ 20% area	+ 30% area	+ 40% area	+ 50% area
0.040	0.042	0.044	0.046	0.047	0.049
0.045	0.047	0.049	0.051	0.053	0.055
0.050	0.052	0.055	0.057	0.059	0.061
0.055	0.058	0.060	0.063	0.065	0.067
0.060	0.063	0.066	0.068	0.071	0.073
0.065	0.068	0.071	0.074	0.077	0.080
0.070	0.073	0.077	0.080	0.083	0.086
0.075	0.079	0.082	0.086	0.089	0.092
0.080	0.084	0.088	0.091	0.095	0.098
0.085	0.089	0.093	0.097	0.101	0.104
0.090	0.094	0.099	0.103	0.106	0.110
0.095	0.100	0.104	0.108	0.112	0.116
0.100	0.105	0.110	0.114	0.118	0.122
0.105	0.110	0.115	0.120	0.124	0.129
0.110	0.115	0.120	0.125	0.130	0.135
0.115	0.121	0.126	0.131	0.136	0.141
0.120	0.126	0.131	0.137	0.142	0.147
0.125	0.131	0.137	0.143	0.148	0.153
0.130	0.136	0.142	0.148	0.154	0.159
0.135	0.142	0.148	0.154	0.160	0.165
0.140	0.147	0.153	0.160	0.166	0.171
0.145	0.152	0.159	0.165	0.172	0.178
0.150	0.157	0.164	0.171	0.177	0.184

Orifice Feed Holes



Recommended Sonnax Products

Part No.	Unit
Hydraulic Booster Kits	
4R100-LB1	E40D, 4R100
4L60E-LB1	4L60-E, 4L65-E, 4L70-E*
4L60E-LB2	4L60-E, 4L65-E, 4L70-E**
700R4-LB1	4L60 (700-R4), 200-4R
400-LB1	400
4L80E-LB1	4L80-E, 4L85-E
4T65E-LB1	4T65-E
350-LB1	350
4R70W-LB1	AODE, 4R70W, 4R75W
Electronic Booster Kits	
44957-LB1	68RFE
44957-LB2	45/545RFE

*Early-style pump **Late-style pump

Pump Bushing 34034T-01

1-2 Accumulator Sleeve & Piston Kit 35719-01K

1-2 Accumulator Piston Cover 35988-01K

Intermediate Overrun Clutch Outer Race 35723HD-01

Line Pressure Booster Kits

Hydraulic Booster Kits Sonnax hydraulic line pressure booster kits contain stronger pressure regulator springs and large ratio boost valves designed to work together to provide progressive pressure increases as driving conditions become more demanding. Sonnax springs are approximately 10% stronger than OE and more conservative in impact than other aftermarket "kit" springs.

Electronic Booster Kits Chrysler 45RFE, 545RFE and 68RFE units are unique because they utilize a true closed-loop pressure control system: the computer reads line pressure at all times through a full range pressure sensor. This means traditional methods of raising line pressure will have no effect because the computer simply re-adjusts the pressure until the voltage signal from the pressure sensor matches what the computer wants to see. Sonnax electronic line pressure boosters alter the pressure signal sent to the computer, causing the computer to raise line pressure. These kits are ideal for heavy duty and modified vehicles and even stock transmissions when a little extra pressure is desired. The booster installs easily between the pressure sensor and vehicle harness using OE-style sealed connectors.

Pump Bushing
34034T-01

Worn babbit pump bushings in GM Powerglide, 350, 400 and Allison® AT540 units allow the converter hub and inner pump gear to move off-center, causing damage to the pump gears and pump housing crescent. Sonnax pump bushing **34034T-01** is a direct replacement part that is better fitting than OE. Extremely wear-resistant, this Teflon® (PTFE)-lined Kryptonite™ bushing helps maximize the life of these older and increasingly rare pumps.

1-2 Accumulator Sleeve & Piston Kit
35719-01K

The 1-2 accumulator bore in the GM 350 cases can become worn or scored from repeated oscillation during normal operation. The 1-2 accumulator sleeve and piston kit **35719-01K** contains everything necessary to rebuild your 1-2 accumulator, except for the OE spring, snap ring and cap. No machining required.

1-2 Accumulator Piston Cover
35988-01K

Sonnax offers **35988-01K**, a machined aluminum 1-2 accumulator piston cover for use in any GM 350 application. Machined from billet aluminum, this part provides a strong yet lightweight alternative to OE accumulator covers. The dual O-ring design eliminates leaks and ensures the cover stays in position when used without an accumulator spring. No machining required.

Intermediate Overrun Clutch Outer Race
35723HD-01

The outer race of the OE intermediate overrun clutch has been prone to cracking under high torque applications. Sonnax offers a heavy-duty **35723HD-01** intermediate overrun clutch outer race, for the GM 350. The improved outer race has a case hardened I.D. with a more ductile core. No machining required.